REMARKS:

This application is believed to be in condition for allowance. Consideration and entry of the following remarks is respectfully requested.

Status of the Claims

Claims 7-20 remain in this application.

Claim Rejections-35 USC §103

Claims 7-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over BRENDEL et al. 2002/0192344 (BRENDEL) in view of the Journal of the Chinese Cereals and Oils Association ("the Chinese Journal article").

Claims 7-8,11-12,14-15 and 18-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over KILBWA U.S. 6217930 in view of the Journal of the Chinese Cereals and Oils Association ("the Chinese Journal article").

Claims 9-10,13,16-17 and 20 rejected under 35 U.S.C. §103(a) as being unpatentable over KILIBWA U.S. 6,217,930 in view of the Journal of the Chinese Cereals and Oils Association ("the Chinese Journal article") and BRENDEL.

These rejections are respectfully traversed.

BRENDEL and KILIBWA were offered for teaching the formation of dough, without reducing agents.

The Chinese Journal article was cited for teaching the addition of reducing agents.

The combinations do not render obvious the claims for the reasons below:

(1) The mechanism of reducing agents and oxidizing agents.

The Chinese Journal article is a scientific article about the progress of the research into bread improvers. The authors present different bread improvers and their respective properties.

As explained in this article, oxidizing agents and reducing agents act in a reverse way in the dough:

- Oxidizing agents, like ascorbic acid, cause oxidation and cross-linking of protein in the dough. Consequently, they reinforce the gluten network
- Reducing agents, like cysteine, glutathione and sulphites, reduce the degree of cross-linking of proteins and thus lessen the cohesion of the gluten network.

The extensibility of the gluten network is crucial for the quality of the backed product. If the gluten network is not resistant enough, then the gas bubbles produced by fermentation during the making of the bread could not be retained and the dough does not rise. Accordingly, the use of an oxidizing agent increases the bread volume (see the Chinese Journal article p. 2 l.11) because the gluten network is stronger and more elastic.

On the contrary, the use of a reducing agent weakens the gluten network in the dough. Therefore (see the Chinese

Journal article p.4, 1st paragraph), the dough is easier to work and the kneading time is shorter. However, since the gluten network is less strong, the use of a reducing agent will have an impact on the quality of the backed product opposite to the impact of oxidizing agents.

(2) BRENDEL in view of the Chinese Journal article.

BRENDEL discloses a process for preparing a food product with reduced calorific value, comprising the step consisting in replacing all or part of the high-calorie substances of the food with an effective quantity of a specific branched maltodextrin.

The subject matter of independent claim 7 differs from BRENDEL on the following points:

- The dough further contains a reducing agent selected from the group consisting of cysteine, glutathione, deactivated dried yeast and bisulfite.
- The amount of said reducing agent is from 0.005 to 1 wt%.
- The dough is free of ascorbic acid.

The position of the Official Action was that it would have been obvious to add a reducing agent as taught in the Chinese Journal article to obtain the benefit of shortening the kneading time. Moreover, it would have been within the skill of one in the art to determine the amount through routine experimentation.

However, this position does not take into consideration the other known effects of the use of reducing agent. Indeed, since the reducing agent weakens the gluten network of the dough, it has an impact on the organoleptic property of the baked product.

The present invention discloses a specific combination of

- a particular improving agent, with an amount from 3-15%,
- a reducing agent, with an amount from 0.005-1%,

the percentages being relative to the weight of the dough.

Thanks to this specific combination of improving agent/gluten reducing agent, very interesting properties appear: not only a short kneading time, but also a short proofing time, and products are obtained that display maximum softness (see p.5 l.32-37 of the application as filed).

These effects cannot be expected from the disclosures of BRENDEL, even in combination with the teaching of the Chinese Journal article.

Therefore, independent claim 7 and dependent claims 8-20 of the present invention are not rendered obvious by BRENDEL in view of the Chinese Journal article, and withdrawal of the rejection is respectfully requested.

(3) KILIBWA in view of the Chinese Journal article (and BRENDEL).

KILIBWA discloses bakery products which include betaine (= trimethylglycine). The presence of betaine retards moisture

migration, retains moisture in a baked good, increases the shelf life of baked goods and improves the organoleptic qualities thereof. KILIBWA does not disclose the use and amount of reducing agent as claimed.

The teaching of KILIBWA does not provide more elements than the teaching of BRENDEL.

This position, like the one based on BRENDEL, does not take into consideration the other known effects of the use of reducing agent. That is, the reducing agent weakens the gluten network of the dough, it has an impact on the organoleptic property of the baked product.

Indeed, a further weakening of the gluten network in KILIBWA appears to be undesirable:

> The betaine is present in the baked goods in amounts within a specific range effective to manifest itself in an enhancing effect that is observable with the naked eye. At levels below that amount, certain characteristics imparted to the baked good, e.g., moisture retention, are not observed or measured. At the other extreme, if present in too high a concentration, the dough or batter containing betaine or other betaine containing ingredients prior to baking becomes too difficult to work with. For example, the dough may become too sticky, the batter viscosity may become drastically reduced so that the product would not be organoleptically acceptable to consumers, cookie spread may become uncontrollable and dough machinability may become difficult. The betaine is thus present in the baked goods in amounts between those ranges.

Consequently, one would have been discouraged from adding another ingredient, such as a reducing agent, that would have further weakened the gluten network, which KILIBWA has already optimized by the use of betaine.

However, the present invention discloses a specific combination of

- a particular improving agent, with an amount from 3-15%,
- a reducing agent, with an amount from 0.005-1%,

the percentages being relative to the weight of the dough.

This specific combination of improving agent and gluten reducing agent provides a short kneading time and a short proofing time, and the products are obtained that display maximum softness (see p.5 l.32-37 of the application as filed).

These effects cannot be expected from the disclosures of KILIBWA and the teaching of the Chinese Journal article, with or without BRENDEL.

Therefore, claims 7-20 are not rendered obvious by KILIBWA in view of the Chinese Journal article with or without BRENDEL, and withdrawal of the rejection is respectfully requested.

Double Patenting Rejection

Claims 7-20 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application 11/993,025.

As the present application is the earlier filed application, it is respectfully requested that the rejection be withdrawn.

Pursuant to MPEP 804 I B, if the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the

earlier-filed application to issue as a patent without a terminal disclaimer.

Conclusion

In view of the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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